Naval Mission Planning Systems

First Pass Success

PMA-233

NavMPS – JMPS
Server/Network Options
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"A computer lets you make more mistakes faster than any invention in human history, with the possible exceptions of handguns and tequila."

-- Mitch Ratcliffe,

Technology Review, April 1992

Setting Expectations

- What I have here are some options…
  - This is not a decision brief
  - It is not a list of server requirements
- What is here needs fleshing out & details
  - Pluses and Minus
  - Past Experiences
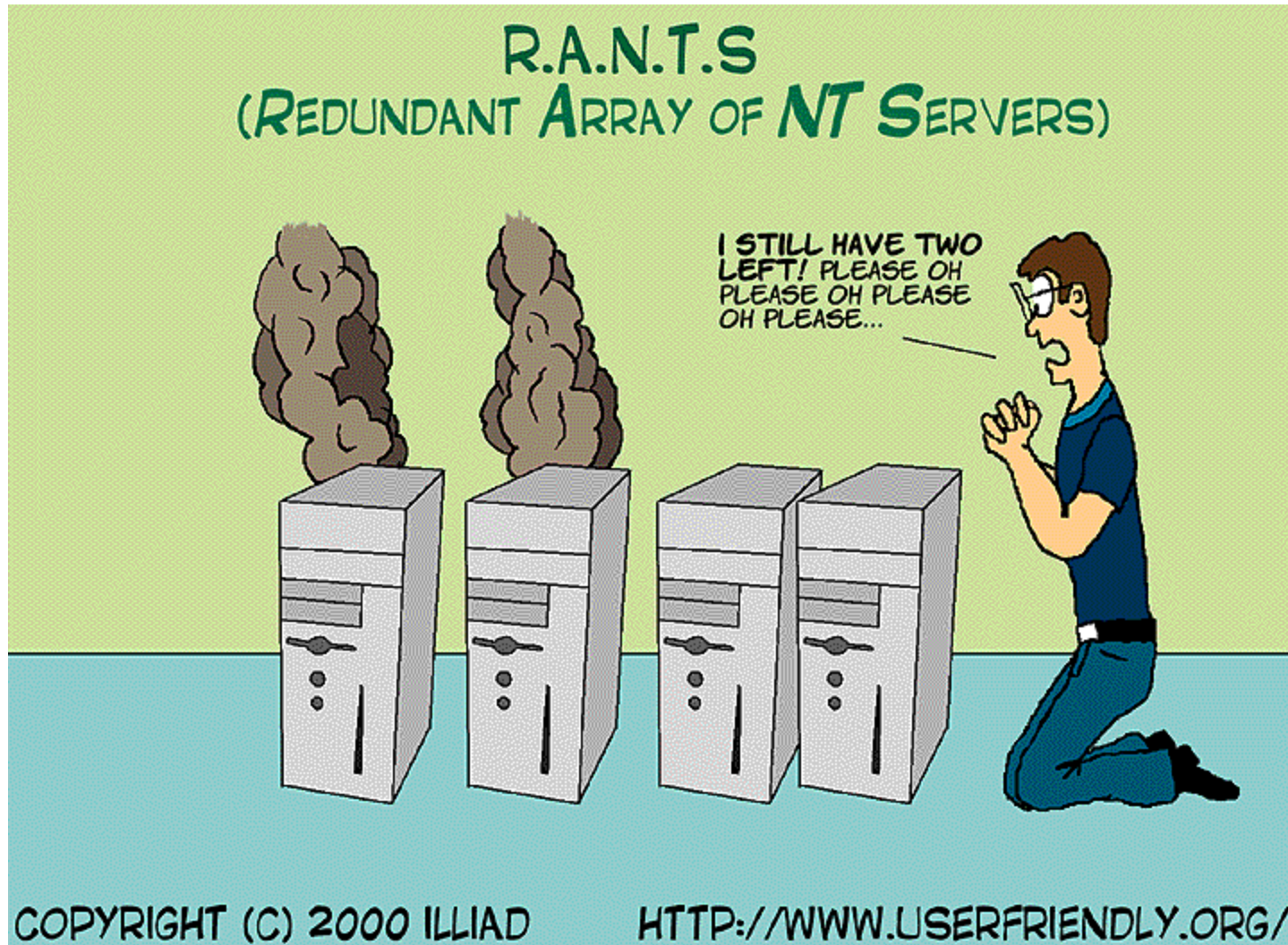 - Other options
- No obvious answers

Things to Consider

- Secure Computing
- GCCS Stability/Interfaces
- ADMACS/Other external systems
- Non-Carrier Locations
- Low Bandwidth Locations
- REDS and its progeny
- Security
- Interconnection to GCCS Segments
- NSWPC/SPF
- RIP/Feral Software
- Current JMPS design

Things Off the Table

- Reach Back Concepts
- JMPS as a GCCS application/segment
- Who buys the H/W

Options Overview

1. **No JMPS Server**
   Direct GCCS Client

2. **3 Tier**
   Looks a lot like TAMPS & REDS

3. **GCCS Proxy**
   2 or 3 Tier

4. **Peering**
   Clients supporting each other

5. **Serengeti/Wildcat**

6. **Bitty Server**
   Special case for special stuff

No JMPS Server

- **PCs networked to GCCS and other servers or systems**
- **No Dedicated Server**
- **Pulls data via SQL or Equivalent APIs**
- **Ad Hoc Storage**
  - **Locale dependent**

G
C
C
S

P
T
W

S
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F

S
R
V
R

JMPS PC

JMPS PC

JMPS PC

JMPS PC

File Server
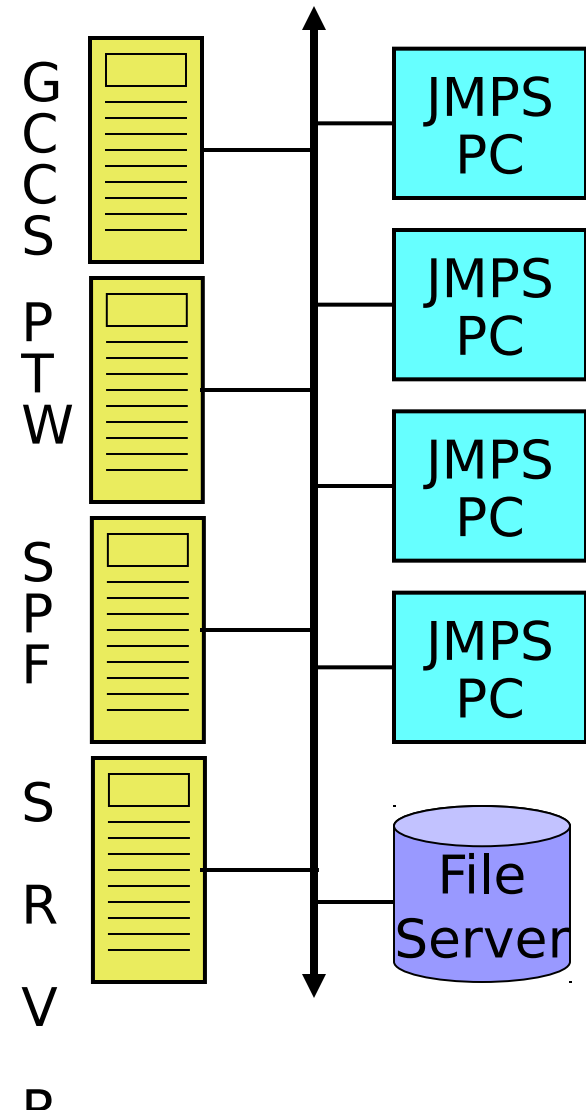
No JMPS Server

PLUSES

- **No server costs**
- **Flexible Configuration**
- **Easy expansion via RIP etc**

MINUSES

- **Clients reactive to outside programs (vice dedicated server)**
- **Ad Hoc connectivity**
- **Need for common storage**
- **Fat Client**

3 Tier

- **JMPS Dedicated Server**
- **JMPS Sever connected to GCCS and other servers or systems**
- **JMPS PCs pulls data from JMPS Server**
- **Includes mass storage**
- **Sun or NT**

GCCS

PTW

SPF

SRV R

JMPS Server

Storage

JMPS PC

JMPS PC

JMPS PC

JMPS PC
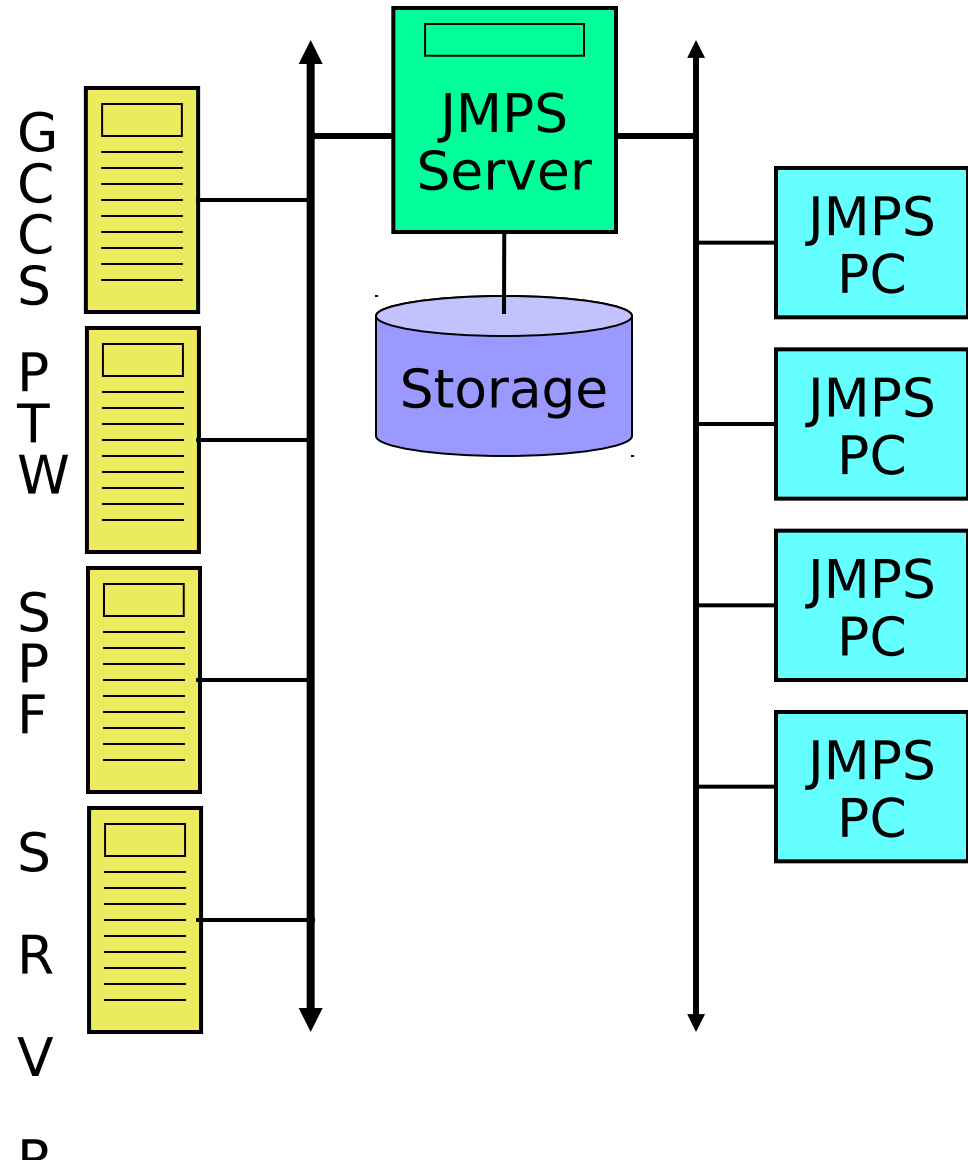
3 Tier

PLUSES

- **We own it**
- **Stable environment for client**
- **CORBA based computational resource**
- **Could be data storage only**

MINUSES

- **Requires a server**
- **Must bridge changes between sources and clients**
- **SA/DBA needs**
- **Certification of CORBA**

GCCS Proxy Segment

- **JMPS GCCS Segment built to support JMPS PCs**

- **Proxy collects data from and supplies it to clients**

- **Data Storage TBD**
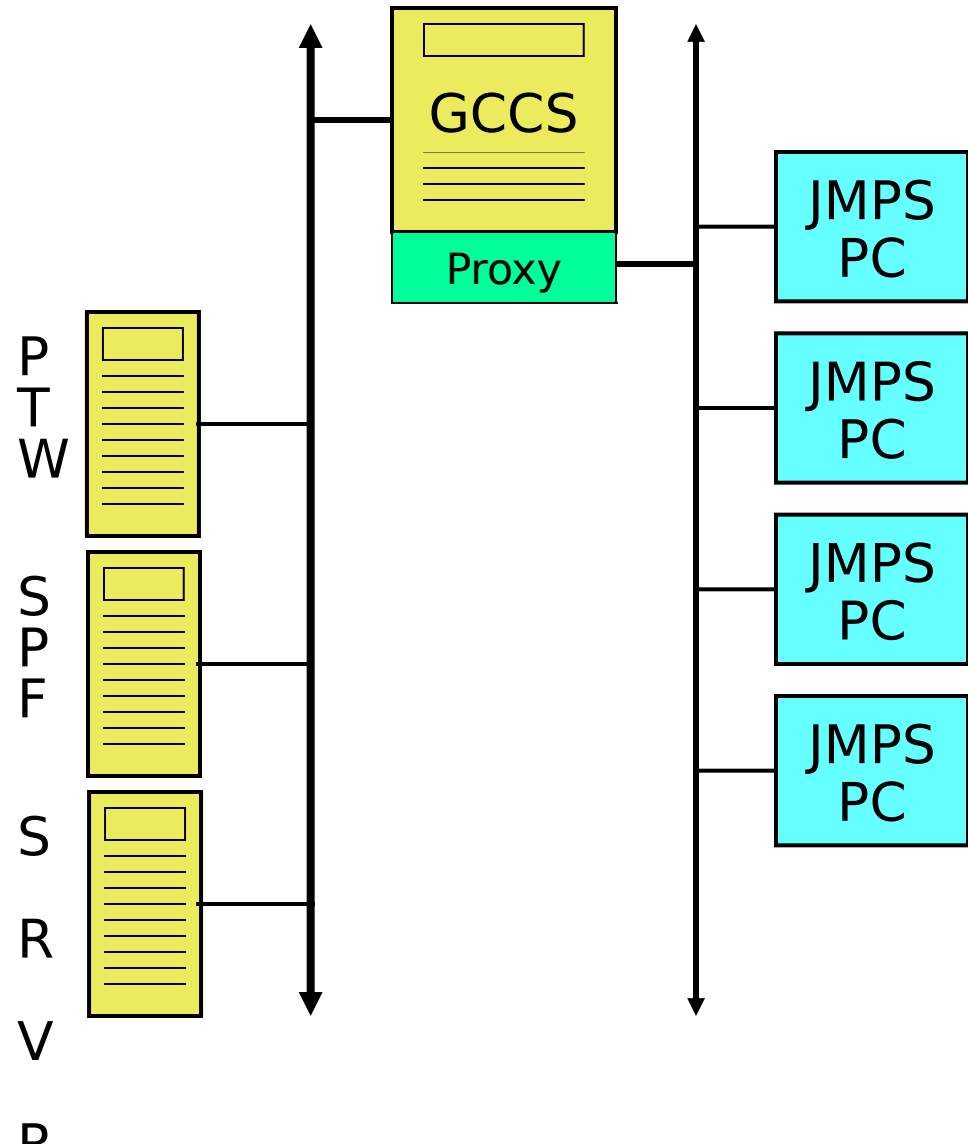
GCCS Proxy Segment

PLUSES

- **Not a server**
- **Stable GCCS interface for clients**

MINUSES

- **May not be able to support all server needs**
- **GCCS Politics**
- **Inter segment APIs**
- **GCCS S/W Dev.**
- **Data Storage**

Peering

- **PCs networked to GCCS and other servers or systems, and each other**

- **No Dedicated Server**

- **PCs share/publish data amongst themselves**

- **PCs can pull data direct from servers**

- **Ad Hoc/Adaptive Storage**
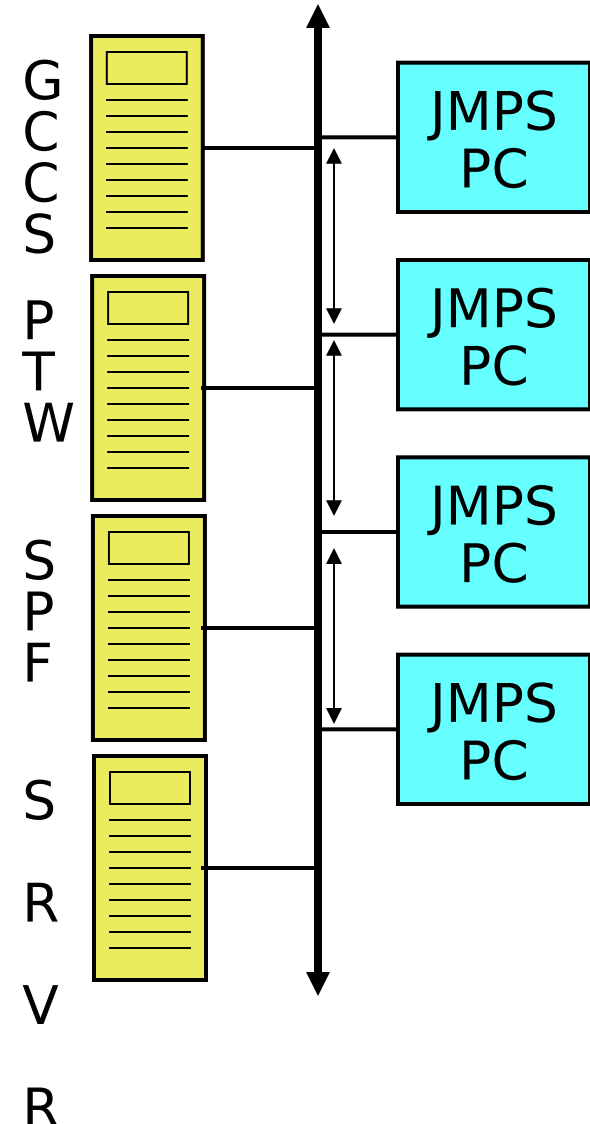
Peering

PLUSES

- **No Sever**
- **Flexible Configuration**
- **Easy expansion**
- **Shared peer storage**
- **More generic**

MINUSES

- **Development of Peering software**
- **Client reactive to outside programs (vice dedicated server)**
- **Ad Hoc connectivity**
- **Certification**
- **Performance**

# *Serengeti*

- **NDA required**

Serengeti

PLUSES

- **No Server H/W Cost**
- **Sun's leading edge architecture**
- **Could support CORBA based backend processing**

MINUSES

- **Sun's leading edge**
- **Unknown interface to other domains**
- **Co-hosted**
- **RMA thresholds**

Bitty Server

- **Addresses unique need of Trusted**
- **Looks like server to its clients**
- **"Understands" the environment**
- **Will have to support local storage**
- **Could be combined**

GCCS

PTW

SPF

SRVR

Bitty Server

JMPS PC

JMPS PC

JMPS PC

JMPS PC
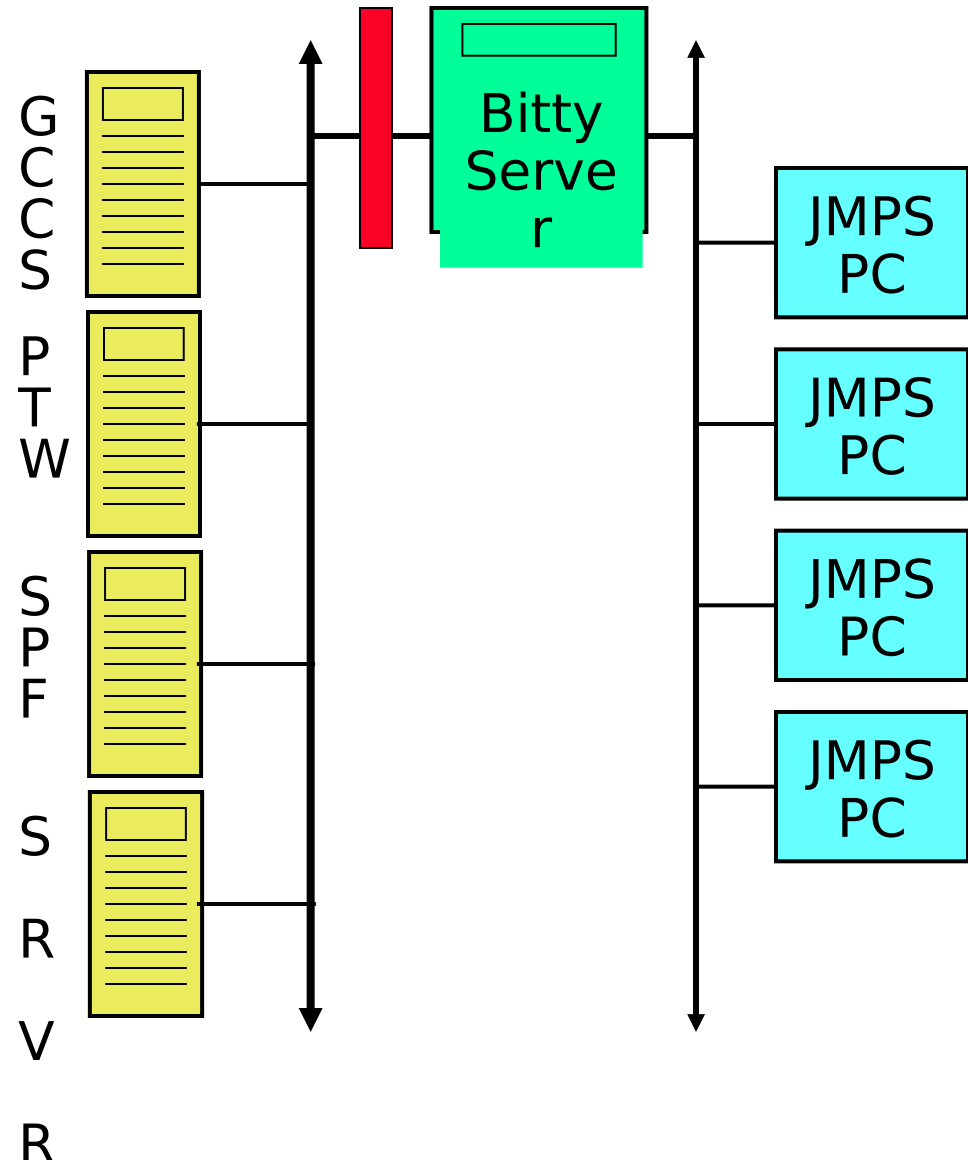
Bitty Server

PLUSES

- **Really helps Trusted**
- **Client does not have to know about its location**
- **Could be combined with other Trusted components**
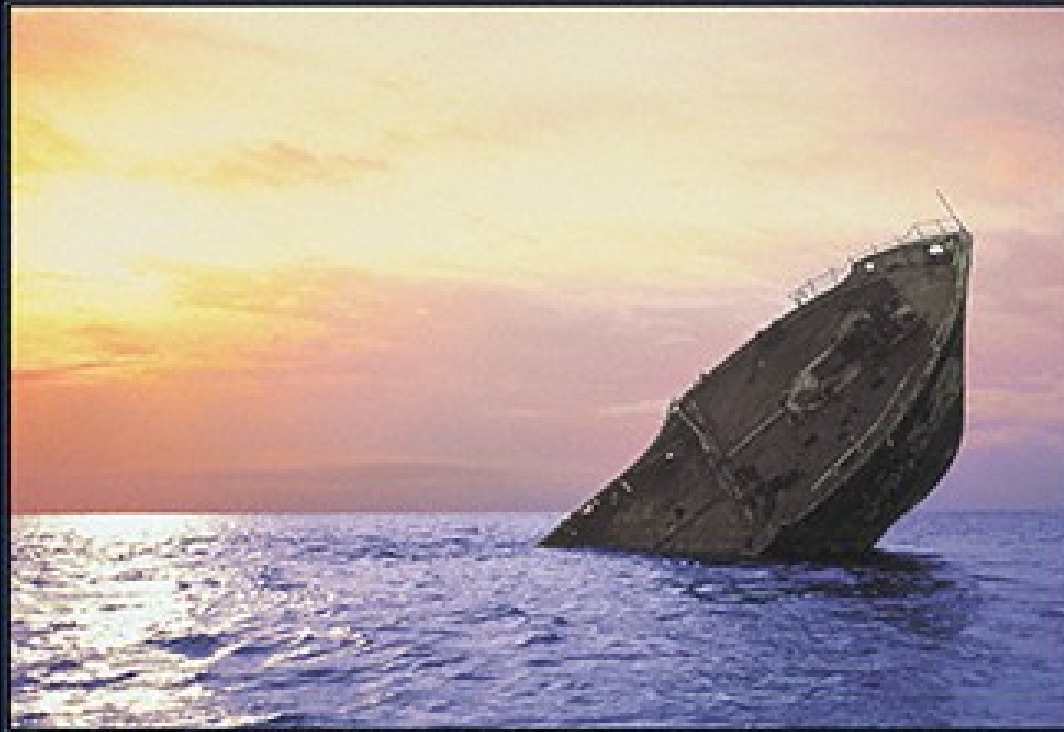
MINUSES

- **Additional variant**
- **Certification issues**
- **NT vs. Solaris**

Summary

- We need some form of server
  - Needing a server != owning a server
- All options presented are viable
  - All have pluses and minus
- Looking for more options
  - Variations
  - Hybrids
- GCCS Is a moving target
  - 10K lb gorilla

Joe "Salami" Gattuso is correct when he says:

We need to target where users will want us to be in 2003, not just where they are today.